

Y/001/63/000/002/001/006 D234/D308

AUTHOR:

Andrejev, Vasilij, Professor, Doctor of Engineering

TITLE:

A survey of the relation between Ritz' and Galerkin's

methods

PERIODICAL:

Tehnika, no. 2, 1963, 205-207

TEXT: On the basis of the difference between homologous equations according to Ritz's and Galerkin's methods

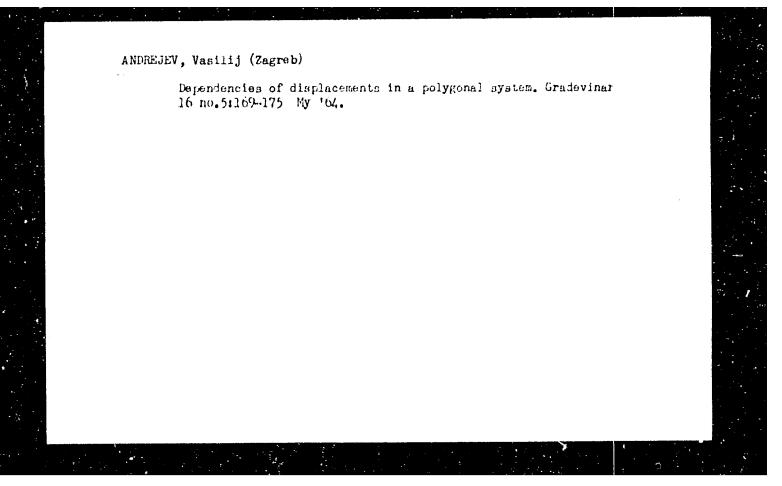
 $R_{i} = 2 G_{i} = R_{i}^{0} = G_{i} = \int (L \phi_{i} U_{n} = L U_{n} \cdot \phi_{i}) d\omega = I_{3}$  (9)

the author concludes that both methods are identical when (9) can express Betty's theorem, i.e. when the functions  $\varphi$ ; satisfy the boundary conditions and can be treated as virtual displacements. The author points out that Galerkin's method is an independent one, while in literature it is regarded as a special case of Ritz's method.

ASSOCIATION:

Sveučilišt u Zagrebu (Zagreb University)

Card 1/1



Andreselv, Vasilije, dr inz., pref. (Zagreb, Krizaniceva lla)

An approximate method for determining fr a oscillations of polygonal frames. Tehnika Jug 19 no. 2:201-206 F '64.

1. Faculty of Civil Engineering, University of Zagreb.

EFREMOV, G.; VASKOV, B.; DUMA, H.; ANDREJEVA, M.

Separation of human hemoglobins with starch gel electrophoresis, aluminium oxide chromatography and DEAE cellulose chromatography. I. Technics and results of the study of adult and fetal hemoglobins. Acta med. Iugosl. 17 no.3:252-262 163.

l. Katedra za stocarstvo Poljoprivredno-sumarskog fakulteta i Elinika za decje bolesti Medicinskog fakulteta u Skoplju.

T. Globalos
MCESSION NR: APRO23191

AUTHOR: Andre jevic, D. (Destor, Director)

TITIE: Treatment of epidemic paretiditis with dinvierget

SOURCE: Medicineki glasmik; no. 12, 1961, hh3-hhi

TOPIC TAIS: infective disease, endoorine system disease, antipyretic, drug

ABSTRACY:

Report on the use of this ergot derivative produced by the Sandos
Company in Switzerland in 136 preaction and 225 school children as an outpational
Procedure during 1960. The machanism of action on sumps is not clear, but the
author considers that the affect of the drug on faver was undeniable,
also that the duration of the disease was much shorter with the transment as
well as pain and general condition, while the effect on swiling was not so
clear. I table: 7 References all from the Clinical literature of India;
where this drug has been used with much alleged success.

Dard 1/2

6

CATEGORY : Chemical Technology, Chemical Products and Their
Applications, Food Industry.

ABS. JOUR. : RZhKhim., No 17, 1959, No. 62556

AUTHOR : Andrejevic, L.
INSTITUTE :-

TITLE : Evaluation of Quality of Serbian Prunes of the

Zh'on Variety and the Determination of Their \*

ORIG. PUB. : Tehnika, 1958, 13, No 11, Prehran. ind., 12, No 11,

172-176

ABSTRACT : Pr

Presented is the commarative quality of prunes (P), grown in two districts - Shabats and Val'yevo. It is found that P from Shabats is somewhat better in quality than P from Val'yevo. The obtained results are conditional since quality of P changes from year to year depending on the quality of plums and on the technology of drying. It is shown that quantity of the absorbed water by P is proportional to the contained pictims and dry substances. Thus in the swelling of P in water, P

\*Swelling Ability.

Card:

1/2

H - 120

Card:

2/2

JOVANOVIC, Vasilije; RADAKOVIC, Natalija; KOVACEVIC, Stojanka; MAJSTOROVIC, Branislav; FURLAN, Milan; AMDREJEVIC, Ljubica; STAMENKOVIC, Jela

A case of metrorrhagia complicated by acute renal failure following blood transfusion. Srpski arh. celok. lek. 92 no.10: 991-995 0 '64.

1. Interno odeljenje Gradske bolnice u Beogradu (Nacelnik: prof. dr. Mihailo Andrejevic); Hirursko odeljenje Gradske bolnice u Beogradu (Nacelnik: prof. dr. Mitar Mitrovic); Biohemijski laboratorijum Gradske bolnice u Beogradu (V.d. sefa: dr. Mila milutinovic).

JOVAPOVIC, Vastilje; im Fould, Busanke; Bl. Maddel, Belgie; ALCEMOVIC, glubica.

Artificial kidney, Spekt ath. celox. 15. 72 to foul what Je 164

1. Interno cielliss is Gradsko belgies a Beggrada (Recelata, prof. dr. Mihallo Sadge (wild); Birursko sadjerje Gradsko belgies a Pecgrada (Recelatik); prof. dr. Situr & trovisi.

ANDREJEVIC, Ljubisa, inz. (Vladicin Han)

Microscopy of food. Tehnika Jug 18 no.5:Suppl.:Prebran ind 17
no.5:939-943 My '63.

1. Poljoprivrodno-industrijski kombinat "Delises", Vladicin Han.

JOVANOVIC, Vasilije; MIRKOVIC, Dusanka; BALABANIC, Veljko; ANDREJEVIC, Ljubica

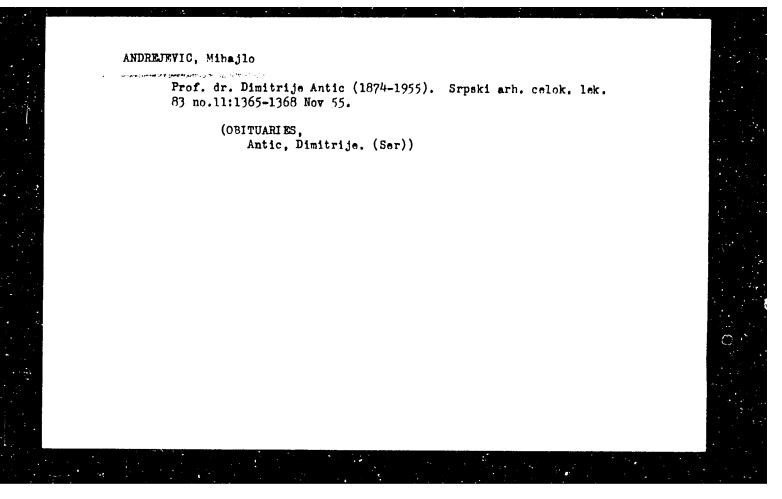
Artificial kidn y. Our first results. Srpski arh. celok. lek. 92 no.9:861-80. 5'64.

1. Interno odeljenje Gradske bolnice u Peogradu (Kacelnik: prof. dr. Mihailo Androjevic); Hirursko odeljenje Gradske bolnice u Beogradu (Nacelnik: prof. dr. Mitar Mitrovic).

Clinical preture and biological cranges in privacy liver emean.

Supukl are, colok, lek, 91 no. harder-103 in 93.

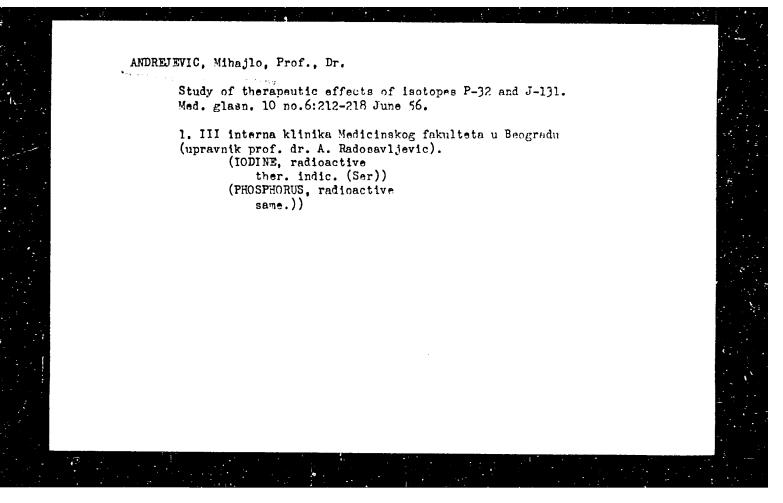
1. Interme cololignic Grader- boinice o Beograia (Soft prof. dr. Mikalio Andrejevic).



POPOVIC, Miroslav; ANDREJEVIC, Milan; POPOVIC, Milica; BALJOSEVIC, Andra

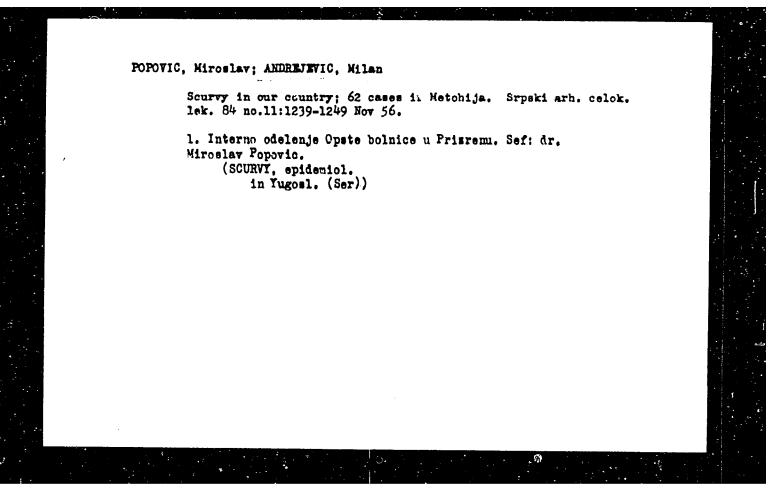
Scurvy in Metohija. Glasn. Hig. Inst., Beogr. 5 no.1-2:
47-56 Jan-June 56.

1. Interno odelenje Opste bolnice u Prizrenu; upravnik:
dr. Miroslav Popovic.
(SCURWY, epidemiol.
in So. Yugoslavia, statist. (Ser))



Case of chloroma. Srpski arh. celok. lek. 84 no.7-8:933-936
July-Aug 56.

1. III Interna klinika Medicinskog fakulteta u Beogradu.
Upravnik: akademik prof. dr. Aleksandar Radosavljevic.
(LEEKOSARCOMA, case reports.
mandible, in adolescent (Ser))
(MANDIBLE, neoplasms,
leukosarcoma in adolescent (Ser))



ANDREJAVIC, M.; PANTELIC, M.; IVANKOVIC, D.

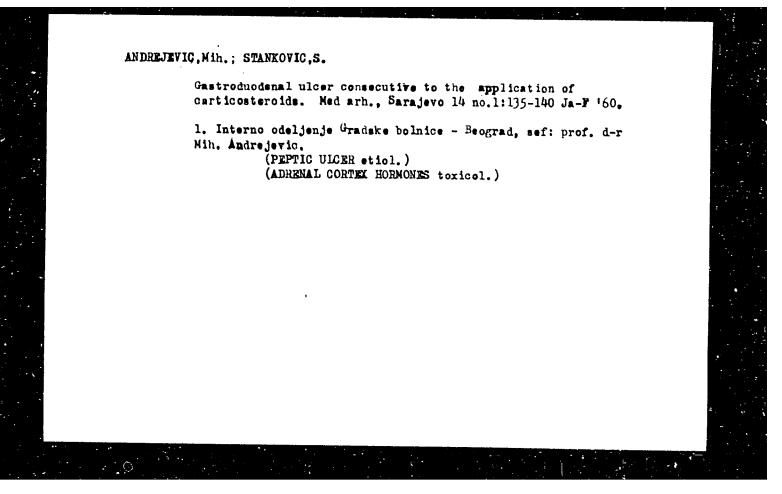
Value of newer druge in therapy of ulcers. Med. glasn. 11 no.6:211-214
June 57.

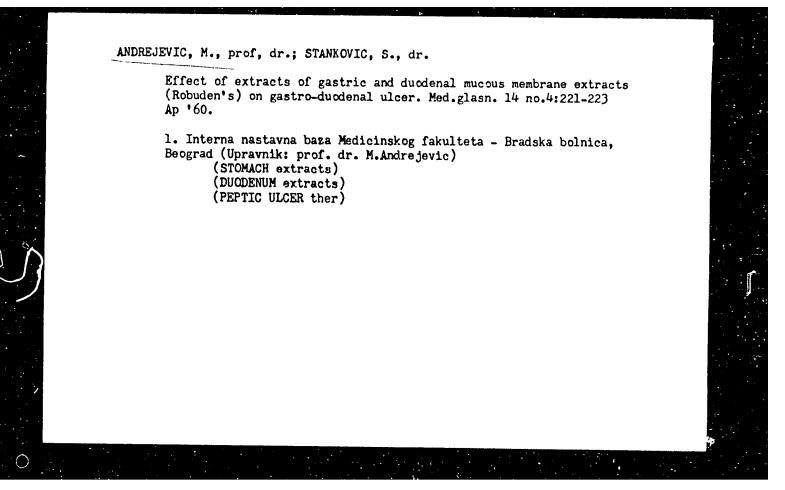
1. Interno odelenje - Nastavna baza - u Gradskoj bolnici u Beogradu
(sef: prof. dr. M. Andrejevic)
(PEPTIC ULCER, ther.
indic. (Ger.))

STANKOVIC, Sotir, dr.; ANDREJEVIC, Mih., prof. dr.

Examination of gastric juice without intubation. Med. glasn.
13 no.10:508-509 0 '59.

1. Interno odeljenje Gradske bolnice u Beogradu, Upravnik: prof.
dr Mih. Andrejevic.
(GASTRIC JUICE)





ANDREJEVIC, M., prof. dr.; VELJKOVIC, D., dr.; STANKOVIC, S., dr.

Diagnostic value of gastric biopsy. Med. glasn. 14 no.12:547-550 D 160.

1. Interno odeljenje Gradske bolnice - Nastavna baza Medicinskog fakulteta u Beogradu (Upravnik: prof. dr M. Andrejevic).

(STOMACH pathol) (BIOPSY)

ANDREJEVIC, Mihailo; MITROVIC, Mitar; ALEKSIC, Aleksandar; VUKASINCVIC, Nadezda; ZIVKOVIC, Milutin

Cases of Schoenlein-Henoch symdrome. Srpski arh. celok. lek. 88 no.5:579-584 My '60.

1. Interno odeljenje Gradske bolnice u Beogradu. Sef: prof. dr Mihailo Andrejevic. Hirursko odeljenje Gradske bolnice u Beogradu. Sef: prof. dr Mitar Mitrovic.

(PURPURA case reports)

ANDREJEVIC, Mihajlo, prof. dr.; STEVANOVIC, Milan, dr.; STANKOVIC, Sotir, dr

Contribution to the study of the pathogenesis and therapeutic effects of anemias in old subjects. Med.arh., Sarajevo 15 no.1:31-42 Ja-F \*61.

1. Interno odeljenje Gradske bolnice - nastavna baza Medicinskog fakulteta Beograd (Sef: prof. dr Mihajlo Andrejevic)
(ANEMIA in old age)

The most frequent causes of the appearance of calculi of the gallbladder. Med. arh. 15 no.5:29-33 S-0 '61.

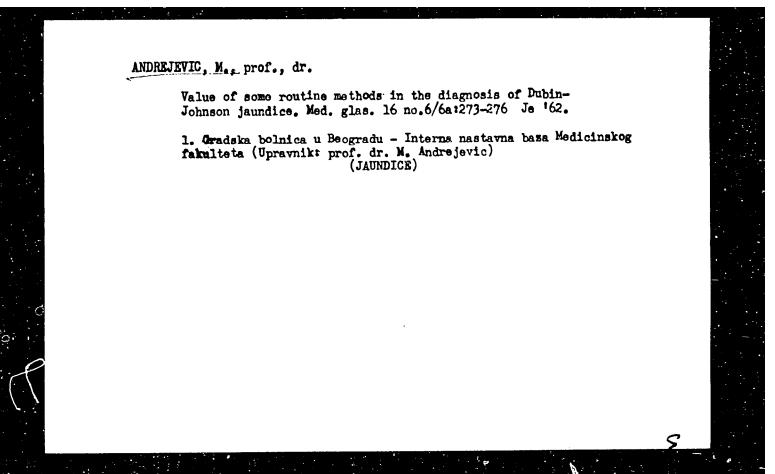
1. Interno odeljenje Gradske bolnice Beograd (Sef: prof. dr Mihajlo Andrejevic). (CHOLELITHIASIS etiol)

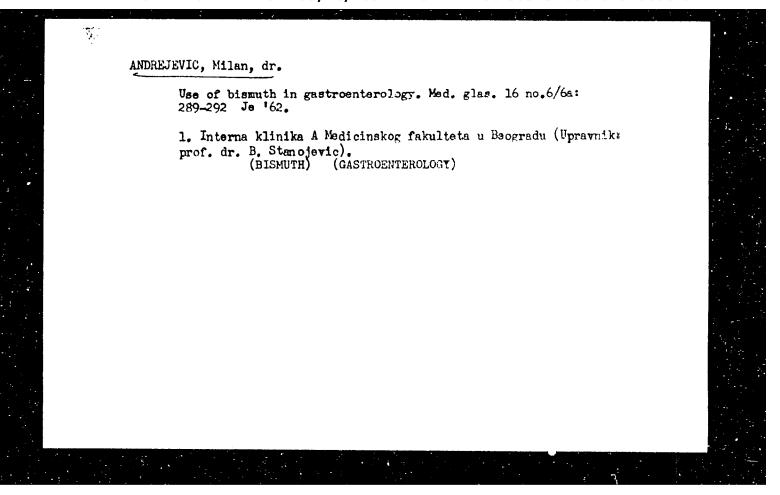
ANDREJEVIC, Mihajlo, dr., prof.; STANKOVIC, Sotir; KOROLIJA, Petar; MADIC, Radmila

Contribution to the clinical picture of pleural epithelioma. Srpski arh. celok. lek. 89 no.1:5-11 Ja '61.

1. Interno odeljenje Gradske bolnice u Beogradu. Sef: prof. dr Mihajlo Andrejevic.

(PLEURA neop1) (CARCINOMA BRONCHOGENIC case reports)





#### YUGOSLAVIA

Mihailo ANDREJEVIC, Vera COPCIC-RISTIC and Drageslav IVANKOVIC.

Deportment of Internal Discuss of City Hospital (Interna odeljenje
Gradske beinice) Head (Nacelnik) Prof Dr Mihailo NADREJEVIC, Belgrade.

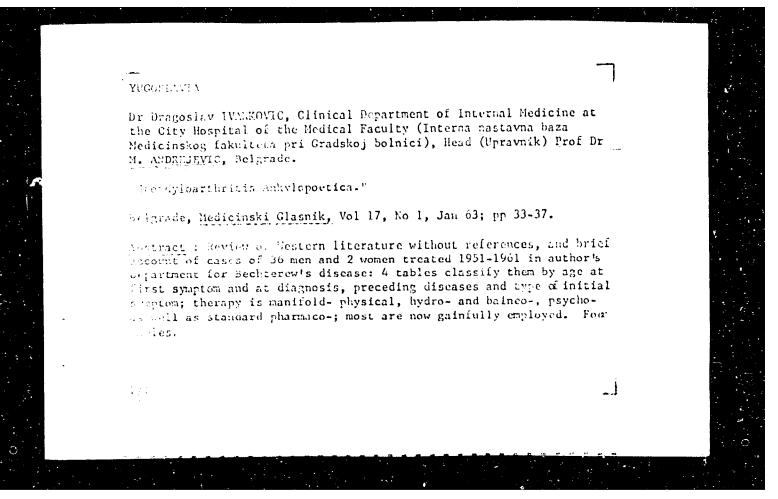
"A Case of Acute Pairless Necrosis of the Pancress."

relatada, Srpski Arhiv za Calokurno Lekarstvo, Vol 90, No 11, Nov 62;

Abstract [English summary modified]: Case in woman aged 56 who died suddenly 12 days after admission to hospital where she was treated transfrontively for presumed mild myccardial disease; diagnosis at accrepsy of acute pancreatic necrosis of which there were very few signs. Electrocardiogram, photomicrograph; 3 Yugoslav and 11 Western references.

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-1/1



Value of Ascolis and Jirgl's test in the differential diagnosis of malignant and benign obstructive jaundice. Srpski arm. selek. 92 no.4s401-406 Ap '64

1. Interna nastavna baza Medicinskog fakulteta Gradska bolnica u Beogradu (Upravnik: prof. dr. Mihailo Andrejevic) i isboraterijski odsek Gradske bolnice u Beogradu (Nacelnik: dr. R. Setrovic).

ANDREJEVIC, Mihailo; KOROLIJA, Petar

A case of acute thrombosis of the axillary artery of allergic ethology. Srpski arh. celok. 1ek. 92 no.7:793-795 Jl-Ag '64

l. Interno odeljenje Gradske bolnice u Beogradu (Upravnik: prof. dr. Mihailo Andrejevie).

#### YUGOSLAVIA

ANDREJEVIC, Mihailo, Dr, prof, STANKOVIC, Sotir, Dr, STEVANOVIC, Milan, Dr, KOROLIJA, Petar, Dr; Department of Internal Medicine of the City Hospital, Belgrade (Interno odelenje Gradske bolnice u Beogradu) (Head: ANDREJEVIC, Mihailo, Dr, prof), Belgrade.

"Influence of Bismuth Therapy on the Acidity and Pepsin of Patients" Belgrade, Medicinski Glasnik, Vol 19, No 11-12, Nov-Dec 1965. pp 316-318

Abstract: Bismuth-subnitrate causes subjective improvement of difficulties in 85,5% of cases. The value of acidity after therapy decreases in 2/3 of the patients and pepsin in one-half of This difference is the result of the weaker effect of bismuth therapy on pepsin, on the creation of proteolysis. With regard to the eventual effect of bismuth-subnitrate, the administration of the bismuth-subcarbonicum should be decided upon and therapy should be extended. Effect of bismuth treatment on anacid ulcers is shown more in the absence of the irritation factor of food than in connection with pensin. No references.

1/1

#### APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101510005-8"

YUGOSIAVIA

POPOVIC, Srbislav, Dr. ANDREJEVIC, Milan, Dr. Department A of the Clinic for Internal Medicine, Faculty of Medicine, University of Belgrade (Interna klinika A Medicinskog fakulteta, Univerziteta u Beogradu) (Head: BRKIC, Djordje, Dr, prof), Belgrade,

"Diabetic Ketoacidosis"

Belgrade, Nedicinski Glasnik, Vol 19, No 11-12, Nov-Dec 1965, pp 333-336

Abstract: A review is given of 42 patients with diabetic ketoacidosis which originated when catabolism in the tissues prevented anabolism normally regulated with insulin. From the clinical point of view, it was presented in 3 different disturbances of the consciousness (somnolence, sopor, and coma). Biochemical disturbances are not sufficient to show the state and degree of this most serious diabetic complication. Treatment of the illness is with insulin, liquids, electrolytes, glucose, and antibiotics.

1 Yugoslav, 12 Western references.

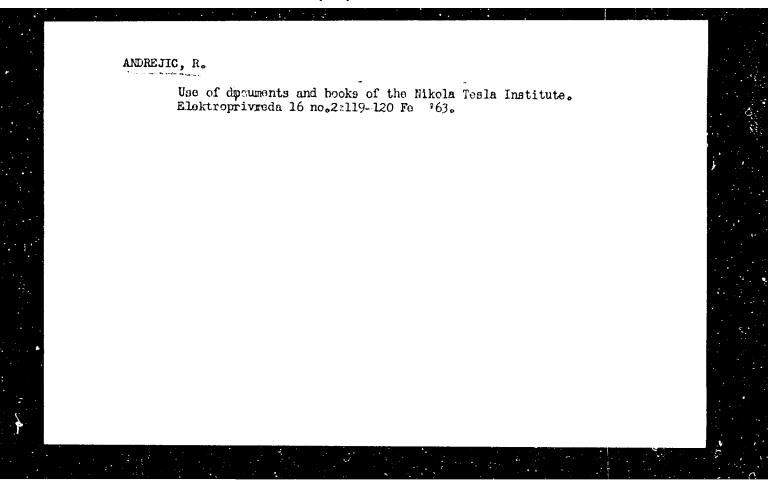
KONECNI, Josii; ANDREJEVIC, Milan; PAVLOVIC-KENTERA, Vera

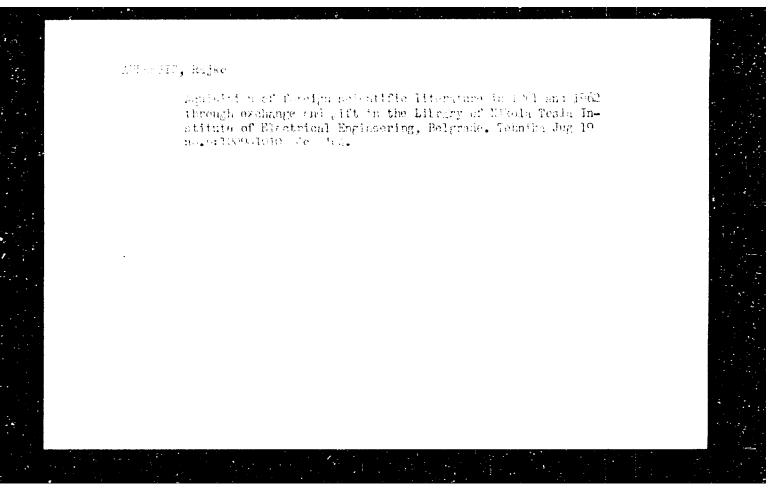
Local application of hydrocertisone in the treatment of exudative tuberculous pleurisy. Srpski arh. celok. lek. 88 no.1:13-21 Ja '60.

1. Interna klinika A Medicinskog fakulteta Univerziteta u Beogradu, upravnik: prof. dr Branislav Stanojevic.

(TUBERCULOSIS PULMONARY ther.)

(HYDROCORTISONE ther.)





ANDREJEVIC. V.
Solventa (in ongo); Given Names

Country: Yugoslavia

Academic Degrees: /not given/

Affiliation: /not given/

Cource: Belgrade, Veterinarski glasnik, No 4, 1961, p. 328.

Data: Book review: "The Structure of the Fowl" by O. Charnock Bradley and Tem Grahame (British).

ANDREJEVIC, V.
SURIAME (in caps); Given Names

Country: Yugoslavia

Academic Degrees: / not given /

Affiliation: / not given /

Source: Belgrade, Veterinarski glasnik, No 5, 1961, p. 416.

Data: Book review: "Reproduction in the Dog" by A. E. Harrop (British).

YUGOSL..VI./Chemical Technology. Chemical Products H and Their Applications. Food Industry.

Abs Jour: Ref Zhur-Khimiya, No 6, 1959, 21311

: Cugusevich, Milica; Andrejevich, Ljubisha Luthor

Inst

: Technological Variety Testing of Straw-Title

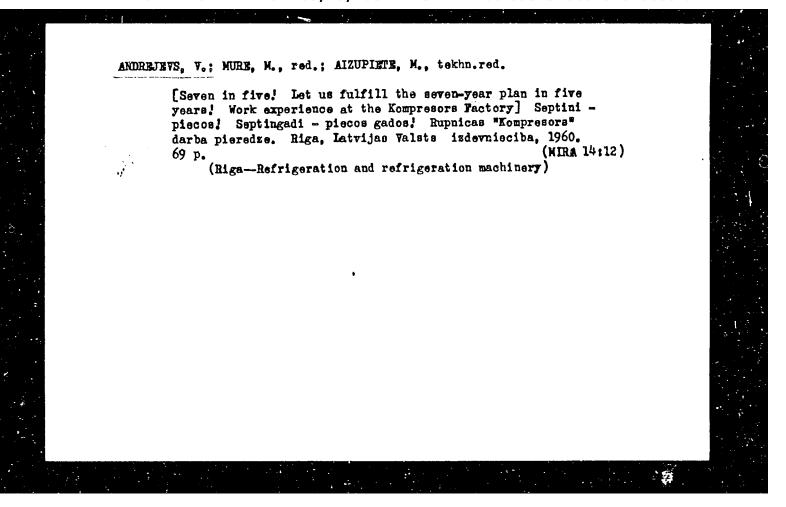
borries.

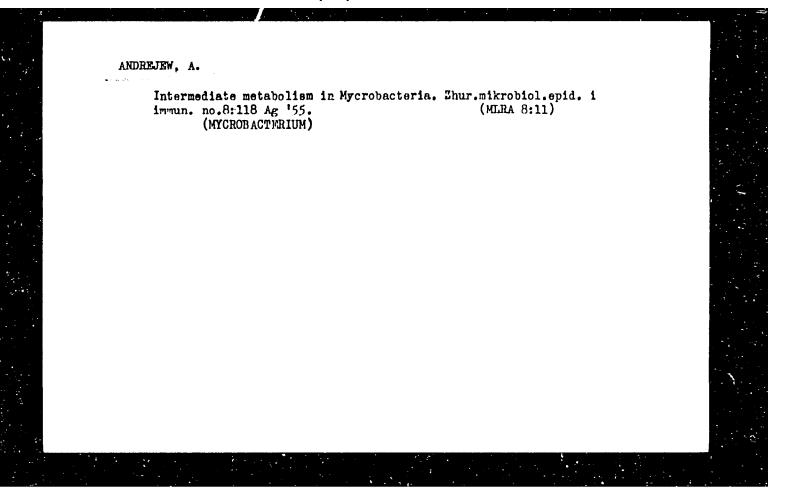
Orig Pub: Tehnika, 1958, 13, No 7, Prehran. ind., 12, No 7, 97-100

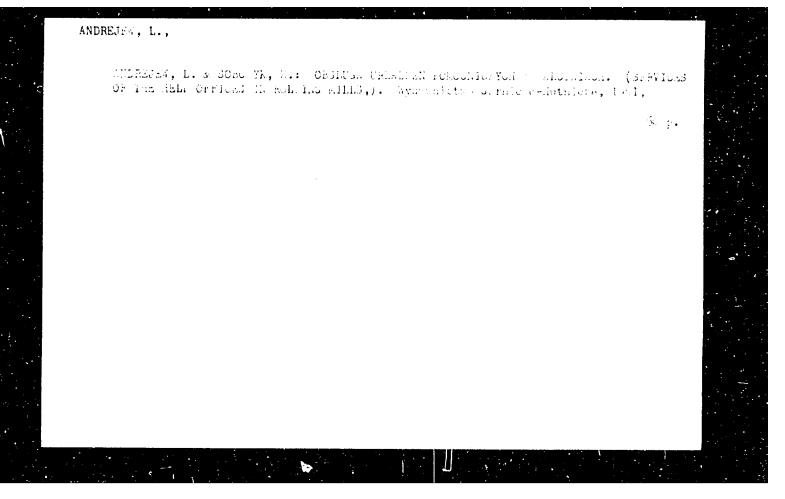
Abstract: The dynamics of the changes of the chemical

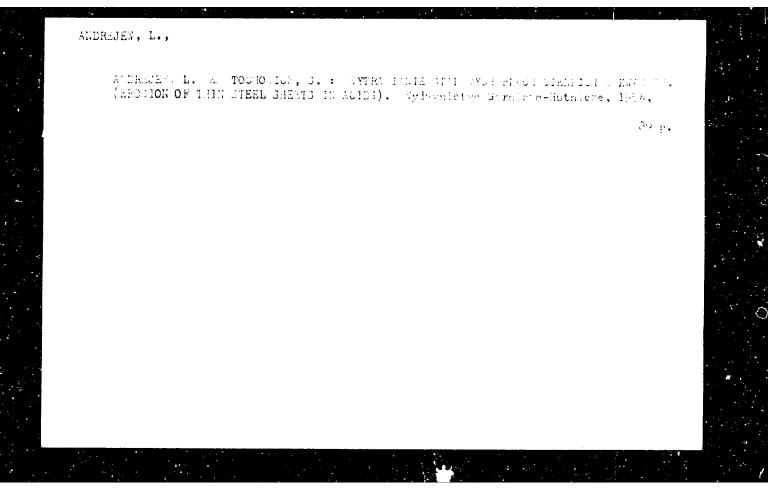
composition of 7 varieties of starwberries in the process of ripening and subsequent storage of the ripe berries were studied; technological variety tests were conducted on the varieties Madam Muto, Idun, Yukunda,

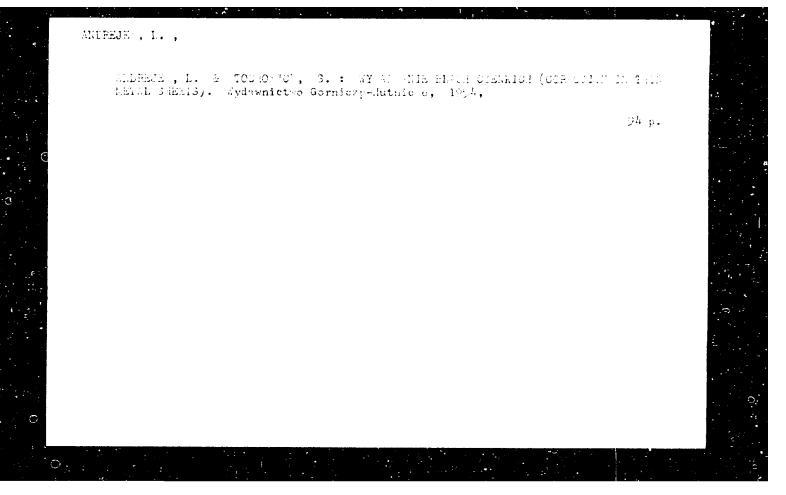
: 1/2 Card











AMDREJEJ, L.

ANDREJEW, L. Friction and speed of drawing steel wire. p. 357. Vol. 21, no. 11, Nov. 1954. HUTNIK. Katowice Poland

SOURCE: East European Accessions List (EEAL) LC Vol. 5, No. 6, June 1956

ANDREJEW, L.

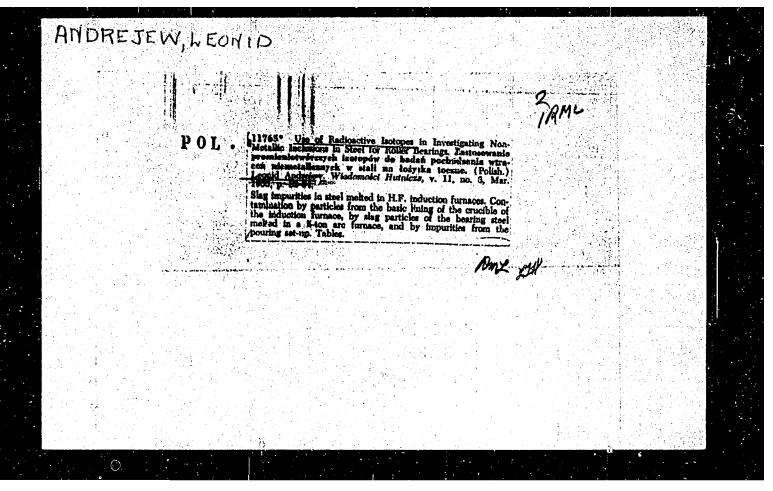
ANDREJEW, L. Relationship between the wiredrawing process and the kind of grease and diameter of the wire. p. 369. Vol. 21, no. 11, Nov. 1954. HUTNIK. Katowice Poland

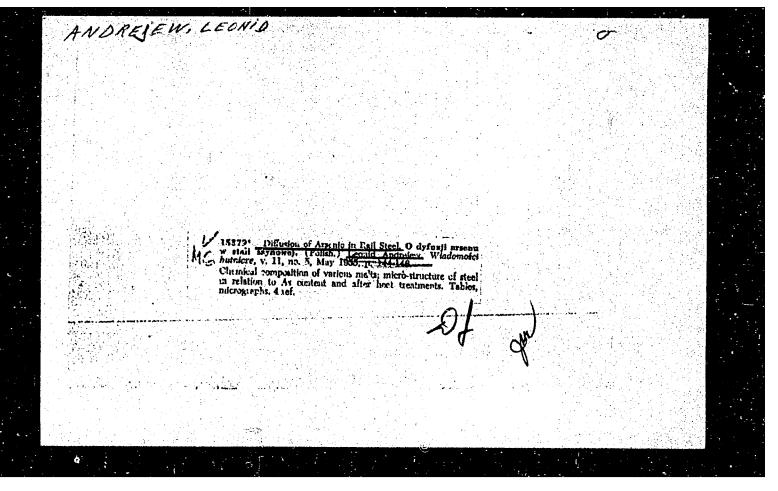
SOURCE: East European Accessions List (EEAL) LC Vol. 5, No. 6, June 1956

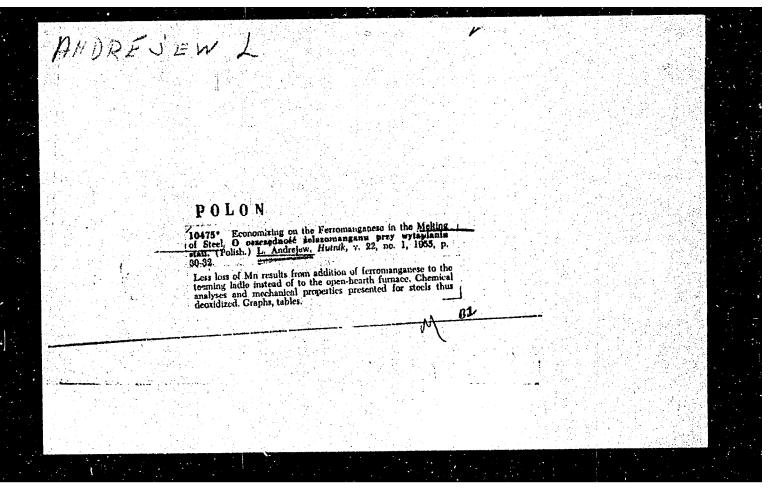
ANDREJEW, L.

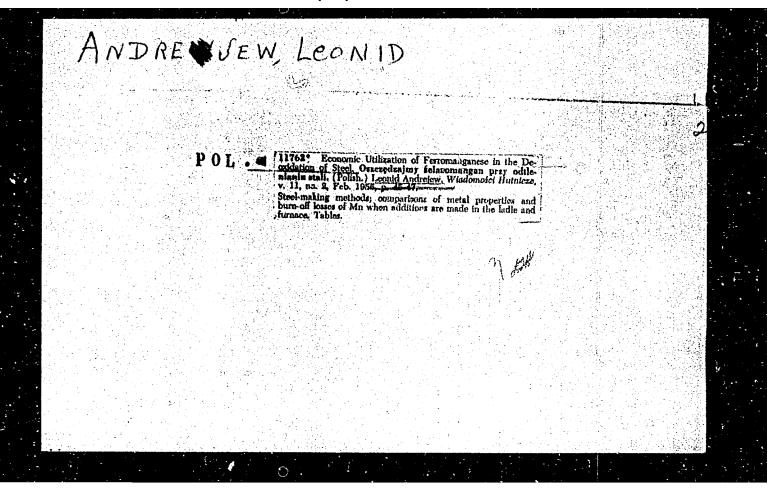
First large-size Soviet rolling mill. p. 408.
A Party-economic-scientific conference of the Institutes of the Ministry of Metallurgy. Bluletyn. p. 45. HUTNIK, Katowice.
Vol. 21, no. 12, Dec. 1954.

SOURCE: East European Accessions List (EEAL) Library of Congress Vol. 5, no. 8, August 1956

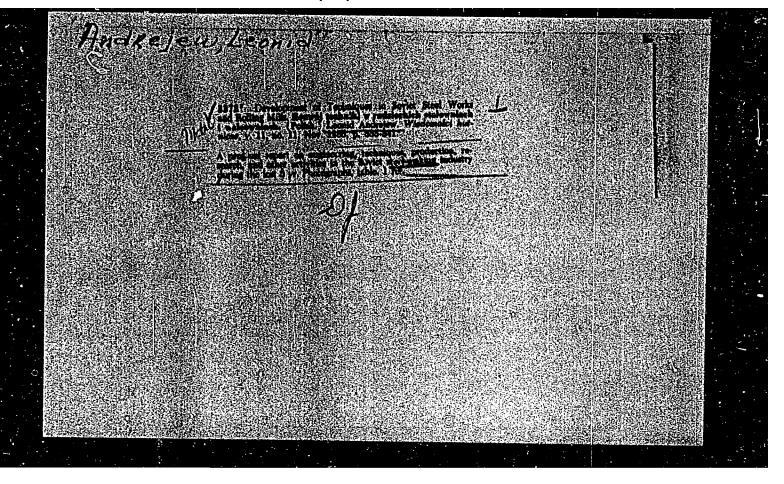








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ANDREJEW, Leonid, mgr inz.; POLEK, Zygmunt, mgr inz.

Achievements of Soviet science in the field of physical metallurgy and heat treatment. Wiad hutn 15 no.4:105-109

Ap '59.

### POLAND

ANDREJEW, N.; PETRUNOV, B.; and HRISANTOWA, T.; Institute of Epidemiology and Mikrobiology [original version of affiliation not shown]; Head (Director) Dr S. RANGELOVA, Sofia, Bulgaria.

"Use of Salmonella typhi Allergen to Determine Vaccination Immunity."

Warsaw, Medycyna Doswiadczalna i Mikrobiologia, Vol 18, No 1, 1966; pp 47-54.

Abstract [English summary modified]: Study of allergen prepared from heat-killed Salmonella typhi, with tests in 112 previously unvaccinated and 169 vaccinated persons. All tests indicated that the allergen is a very effective vaccine or vaccine effectiveness detector. Graph, 5 tables; 5 Western and 7 Soviet references.

1/1

ANDREJIC, R.

The Library of Nikola Tesla Institute; the Section for Electric Industries. p. 183. (Elektroprivreda, Vol. 10, no. 3, Mar. 1957. Yugoslavia.)

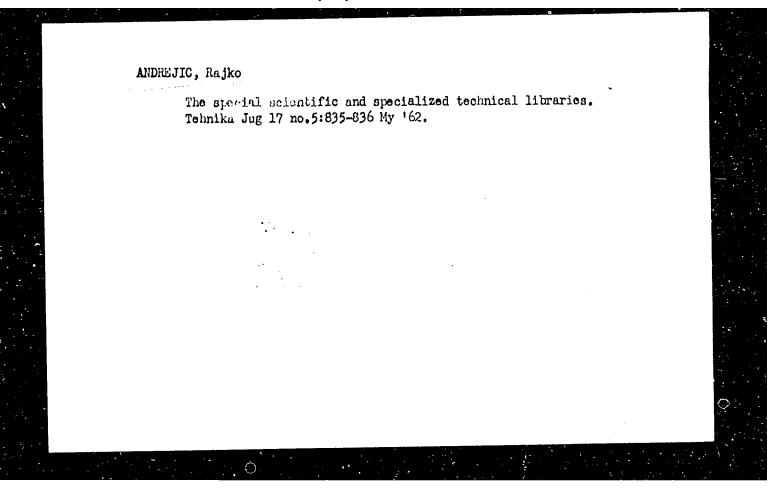
SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 7, July 1957. Uncl.

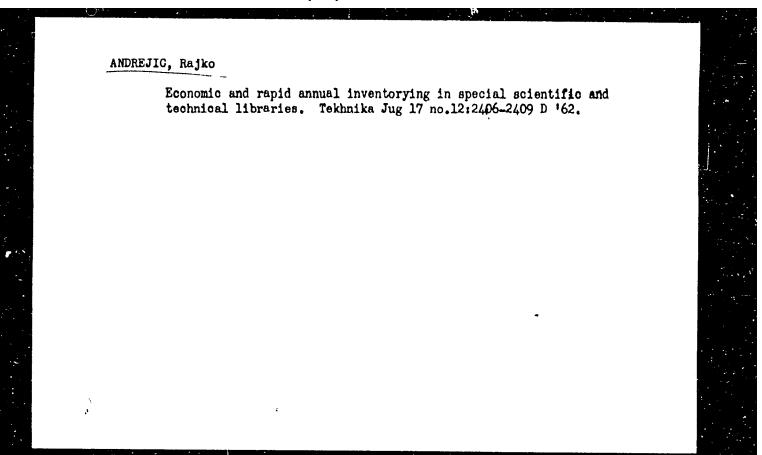
AMERFUIC, R.

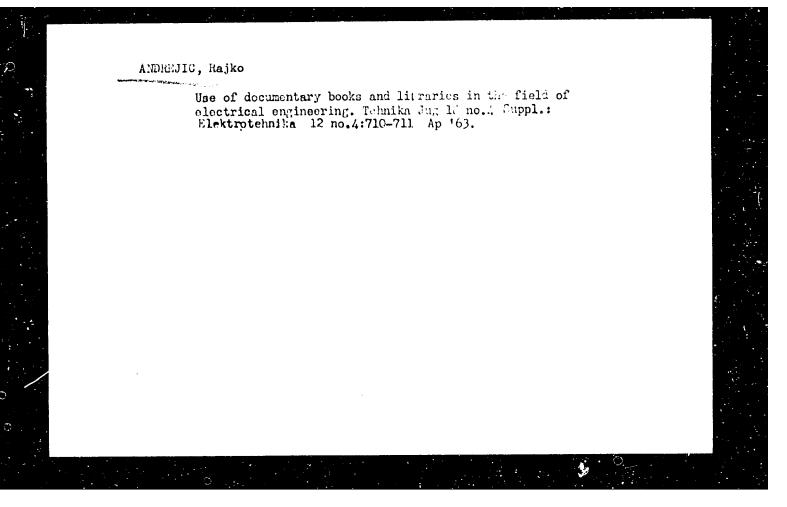
Cur oldest and most important library of construction engineering; the Library of the Institute for Testing Materials and Constructions of Serbia. p. 1299.

(TEHNIKA. Vol. 12, No. 8, 1957, Beograd, Yugoslavia)

SO: Monthly List of East European Accessions (E: AL) Lc. Vol. 6, No. 10, October 1957. Uncl.







# Development and construction of component for apost the man polarization. p.112. VENTRUE, Progue, Vol. 29, no. 3, 1954. DO: Monthly list of Eart turegeon Accessions, (EFAL), 10, Vol. 5, No. 6 June 1956, Vncl.

ANDREJTSCHIN, R. [Andreichin, R.]; KECHLIBAROV, T. [Kekhlibarov, T.]

Measuring short-wave boundary of ultraviolet solar radiation.
Doklady BAN 16 no.6:601-604 163.

1. Vorgelegt von Akademiemitglied G.Nadjakov [Nadzhakov, G.].

#17 jewels."

p. 22 (Ceskoslovensky Vojak) Vol. 6, no. 26, Dec. 1957
Prague, Czechoslovakia

S0: Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 4,
April 1958

AMURELOWICZ, A.; Aulich, K.

"Research on and Chemical Appraisal of Preserved Tomatoes." p. 487 (<u>Iziennik Urzedowy</u>, No. 4, 1953, Warszawa)

S0: Monthly List of East European Accessions, Library of Congress, Vol. 3, No. 6, June. 1954, Uncl.

H-25

ANDRELOVICE, HATOMINA

FOLAND/Chemical Technology - Chemical Products and Their

Application, Part 3. - Carbohydrates and Their

Treatment.

Abs Jour

: Ref Zhur - Khimiya, No 7, 1958, 22966

Author

: Maria Wojciechowicz, Antonina Andrelovicz

Inst

: State Institute of Hygiene.

Title

: Qualitative Analysis of Starch Syrups by Method of Paper

Chromatography.

Orig Pub

: Roczn. Panstw. zakl. hig., 1958, 8, No 2, 161-175

Abstract

: The methods and results of analyses of 11 kinds of starch syrups (caramel, yellow and halvah) and of the malt extract "Malto" are described. The presence of glucose, maltose, maltotriose with isomaltose, maltotetrose with pannose, panto-, hexo-, and heptooligosaccharides

Card 1/2

POLAND/Chemical Technology - Chemical Products and Their

H-25

Application, Part 3. - Carbohydrates and Their

Treatment.

Abs Jour : Ref Zhur - Khimiya, No 7, 1958, 22966

and higher dextrins was established. A considerable difference in the intensity of spots and bands of higher oligosaccharides and dextrins was noted on the chromato-

grams of syrups and the "Malto" extract.

Card 2/2

ANDRELOWICZ, Antonina

FOLIND/Chemical Technology - Chemical Products and Their

H-25

Application, Part 3. - Carbohydrates and Their

Treatment.

Abs Jour

: Ref Zhur - Khimiya, No 7, 1958, 22967

Author

Antonina Andrelowicz, Maria Wojciechowicz

Inst

State Institute of Hygiene

Title

: Revealing of Addition of Starch Syrup to Alimentary

Products by Chromatographic Analysis.

Orig Pub

: Roczn. Panstw. zakl. hig., 1957, 8, No 2, 177-188

Abstract

: Methods and results of investigations of artificial sugar and molasses honeys, halvah and "Ovovitin" (a lactose containing product) for establishing their contents of starch syrup. Chromatograms of starch syrups, "Malto" extract, and of the sugars glucose, fructose, maltose, saccharose and lactose were used for comparison. The presence of

Card 1/2

APPROVED FOR RELEASE: 03/20/2001 CIA-RDP86-00513R000101510005-8"

Card 2/2

AMERICALCE, A.; W.JOHOGALICZ, M.

Determination of substitution of hydrolyzed sugar syrup for natural honey by the chromatographic method. p. 259.

CHELLI ANVILLIG. IIA. (Komisja Analitycana Polskie Akademii Nauk i Naczelna Organizacja Techniczna) Warszawa. Polsnd. Vol. h, No.  $\frac{1}{2}$ , 1959.

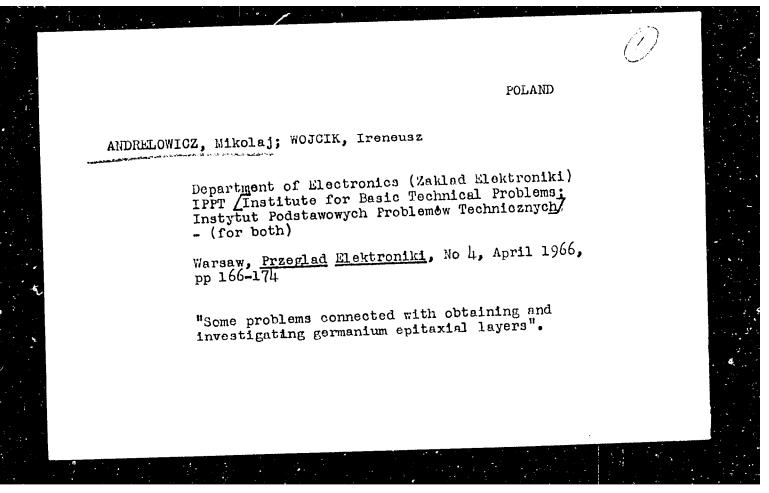
Honthly list of East European Accessions (EFAI) LC, Vol. 6, No. 8, August 1959 Uncla.

WIECZFFINSKI, Kanimierz; Andrelowicz, Mikolaj

Preparation of four and fivevalent chromium compounds in reactions in the solid phase. Rocz chemii 36 no.10:1397-1402

162.

1. Department of Inorganic Chemistry, Institute of Technology, Warsaw.



AUTHOR:

Andrenko, G.I.

TITIE:

Take-off Assisted by Deflected Exhaust Gases of the Jet Engine (Vzlet samoleta s otklonennoy struyey gazov

reaktivnogo dvigatelya)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Aviatsionnaya

Tekhnika, 1958, Nr 3, pp 8-15 (USSR)

ABSTRACT:

The article deals with the possibility of shortening the overall take-off distance by means of deflecting the jet from the propulsive system downwards. The method may also be applied to landing in order to diminish the velocity of landing and then by reversal of the the thrust to shorten the braking distance. The main advantage of this method lies in that the additional lifting force

A cos ( $\infty$  +  $\epsilon$ ) (see Fig.1) appears to be practically independent from the horizontal speed of the aircraft. Preliminary investigations in the wind tunnel on models with two engines fitted with a device to deflect the gas jets from the engines, show that as a result of the

interaction of the deflected jet on the main air stream the pressure distribution on the models changes. As the

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oncoming air stream decelerates when it approaches the jets, the pressure intensity on the lower surfaces of the engine nacelle and the wing increases, while on the upper surface of the wing it decreases. As a result of this, with the incidence and the velocity of the aircraft remaining unchanged, the magnitude of  $C_y(\equiv C)$  increases. Taking into account only the effect of the deflected stream in its path round the aircraft and neglecting the reaction of the jet, the coefficient of the pitching moment  $\mathbf{M}_{\mathbf{Z}}$ , according to calculations, practically does not change. Therefore in order to secure the stability of the aircraft, the line of action of the reactive force RB (Fig.1) should pass close to C.G. of the aircraft, which is easy to arrange with the engines mounted in the wings. However, if it is not possible to stabilize the aircraft with the elevator, it may be necessary to provide at the tail end of the fuselage some special gas controls. At the instant the aircraft becomes airborne (Fig.1) Eq.1 is valid, where:

Card 2/7 Cy OFP - lift coefficient at the moment of separation

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 $\Delta C_y$  - additional lift coefficient due to deflected jet P - engine thrust

MB - engine air intake per second

- angle of incidence

ε - angle between the axis of the engine and the wing chord

G - weight of the aircraft

Ky - coefficient of the vertical force

KQ - coefficient of the force along the engine axiz

 $\beta^{\circ}$  - angle of deflection of the jet

n - cross-sectional area of the device deflecting the jet cross-sectional area of the nozzle exit

 ▼ - correction coefficient for the momentum of the system correction coefficient for the momentum of the nozzle

 φ - coefficient of discharge from the deflecting system coefficient of discharge from the nozzle

Coefficients  $\psi$  and  $\phi$  are determined experimentally and depend on the design of the device. Eq.1 gives the coefficient Ky necessary to secure a given velocity of

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take-off as shown in Eq.2. Fig.2 shows some values of  $V^{\pm}$  take-off as functions of Ky for the case when: P/G = 0.2, 0.4, 0.6, 0.8 and 1.0;  $G/S = 300 \text{ kg/m}^2$ ,  $(\alpha + \epsilon) = 10^\circ$ ;  $C_y$  OTP = 1 and  $\Delta C_y = 0$ . It is seen that as Ky increases (i.e. angle of deflection of the jet increases) the velocity of take-off decreases. Also as the thrust loading increases  $dV^{\pm}/dK_y$  increases. Eq.3 gives the accelerating force and Eq.4 the relative acceleration of the aircraft, where  $P^*$  - is the engine thrust with the deflected jet,  $Q^*$  - is the frontal drag,  $f_{DP}$  - reduced coefficient of friction,  $Y^*$  - lift force with the deflected jet. Fig.3 shows the result of the Eq.3 for various angles of deflection of the jet and it is seen that the acceleration varies only slightly with velocity but diminishes rapidly with increasing angle of deflection  $\beta$  (Fig.4). From these graphs it appears expedient to run the aircraft without deflecting the jet until the very moment the aircraft becomes airborne. As this means a longer run-off it is necessary to analyse the relative magnitudes of the run-off length,

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and climb to a given height as functions of the angle of deflection of the jet and then to determine the optimal conditions resulting in reduction of the overall length of the take-off operation. This is done through Eq.5 to 9 and in Fig.6, 7 and 8. In Fig.6 Lp represents the length of the run-off for various values of P/G as function of Ky. It is seen that Lp decreases as Ky increases. Fig.7 shows that LBNN, i.e. the length to climb to 25 m, reaches its minimum at a value of Ky which depends on the magnitude of P/G, e.g. for P/G = 0.4 the minimum L is for Ky = 0.35 etc. As Ky increases this length increases, at first slowly and then rapidly. The total length of take-off, being the sum of the two, is given in Fig.8. It appears that for each P/G there is a value of Ky which gives a minimum overall length of the take-off. From these theoretical considerations the following conclusions emerge:

1. Deflection of the engine jet is an effective way of shortening the take-off length. 2. It is advantageous to deflect the jet only from the instant the aircraft

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becomes airborne. 3. The best solution to shorten the take-off is to mount the engines in the wings.

4. In order to preserve the stability of the aircraft it is advisable to arrange the deflecting mechanism so that the line of action of the deflected jets passes close to the C.G. of the aircraft. Failing this some additional measures must be provided. 5. As seen from Fig.2, the velocity of take-off (and Ky) change over a large range depending upon P/G. Therefore, when using the engines with deflected jets it is necessary to know the minimum velocity of flight in order to decide the most suitable angle of jet deflection. The minimum velocity of flight is that at which the aircraft is fully

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sensitive to the rudder and other controls. There are

8 figures.

ASSOCIATION: Khar'kovskiy Aviatsionnyy Institut, Kafedra Aerogidrodinamiki (Kharkov Institute of Aeronautics, Chair of Aerohydrodynamics)

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TITLE

Some Aerodynamical Aspects of Jet Propelled Aircraft

with Deflected Exhaust Gases

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy Aviatsionnaya

tekhnika, 1960, Nr 2, pp 3-13 (USSR)

ABSTRACT

The article considers some effects of the mutual interaction between the main flow of air past the aircraft and the deflected jet from the engine, the discussion being confined to subsonic speeds only.

is found that the jet affects the aerodynamic

characteristics of the aircraft. Models with two

different engine lay-outs were tested in the wind tunnels. In the model Nr 1 the jet engine was located in the tail end of the fuselage (Fig 1) and in model Nr 2, there were

two engines in nacelles, symmetrically suspended under the wings (Fig 3). To simulate the action of the engines, compressed air was blown through the engine

mock-ups. As the temperature gradient between the efflux gases from the engine and the ambient air does not affect

the geometric parameters of the flow - cold air was Card 1/4

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used to simulate the engines efflux. Since for the range of speeds investigated the compressibility effects are negligible, only the Reynolds number appears as the required parameter of similarity of flows between the models and the full size aircraft. These parameters are developed in Eq (1) to (5), the last one giving the functional relation between (W/V) for the model and (W/V) for the full size aircraft. Model Nr 1 had two variants. In the first the engine mock-up was suspended independently of the aircraft model while in the second variant it was attached to the model as shown in Fig 2a. The jet was deflected through  $\varepsilon = 90^{\circ} - 90^{\circ}$ or 150° - 150° the deflecting vanes being of the bucket type, see insets in Fig 1 — The layout for the model Nr 2 is shown in Fig 3. The figure shows also two different types of deflectors; bucket type and the vaned type. The experiments with both models were carried out first with a plate simulating the ground (as shown in Fig 4) and then without it. The results of these

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experiments are shown in Fig 5 to 12, and relate the effect of the angle of the deflection of the jet ( $\epsilon$ ) on the lift  $(c_y)$ , drag  $(c_x)$  and pitching moment  $(m_z)$  for various values of q = W/V. Fig 5 refers to the model Nr 1 and the engine mock-up independently suspended; Fig 6 refers to the same model but with its engine mock-up fixed in the model. It is seen that the drag coefficient increases as a result of the jet deflection, this can be explained by a substantial pressure drop behind the aircraft due to interaction between the incident air stream and the jet from the engine. Fig 7 refers to model Nr 2 with bucket type deflectors and without the plate simulating the ground effect. Fig 8 shows the movement of the centre of pressure (as defined by Eq (6)) for this case, which is quite substantial, especialty in the case of asymmetric deflection of the jet. Fig 9 and 10 refer to the same model as above and compare the aerodynamic characteristics for the case with the ordend effect (upper graphs) and without it (lower graphs),

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while Fig 11 and 12 present the corresponding aerodynamic characteristics for the above model with vaned deflectors. From these graphs it is clear that both types of deflectors have the same effect only and  $^{\rm G}_{\rm X}$  but the vaned type deflectors have a less pronounced effect than the bucket type deflectors. There are

ASSOCIATION: Khar kovskiy aviatsionnyy institut; Kafedra aerogidrodinamiki (Khar kov Institute of Aeronautics; Chair of Aerodynamics)

SUBMITTED: November 19, 1959

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TKACHENKO, Ya. Ye., kand. tekhn. nauk; ANDRENKO, G.I., kand. tekhn. nauk; SHAPOSHNIKOV, A.K., inzh.

Most advantageous aerodynamic shape of locomotives. Vest. TSNII MPS 23 no.6:20-24 164. (MIRA 17:10)

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AUTHOR:

Andrenko, G

TITLE:

Aerodynamical investigation of a traction reverser

for turbo-jet engines

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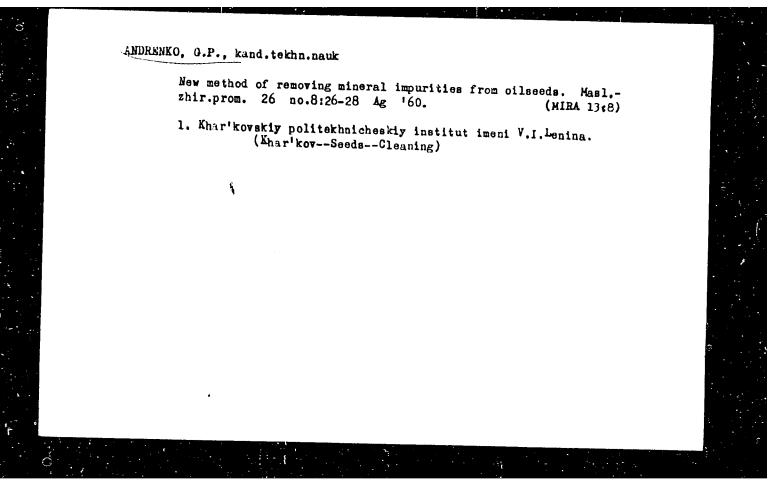
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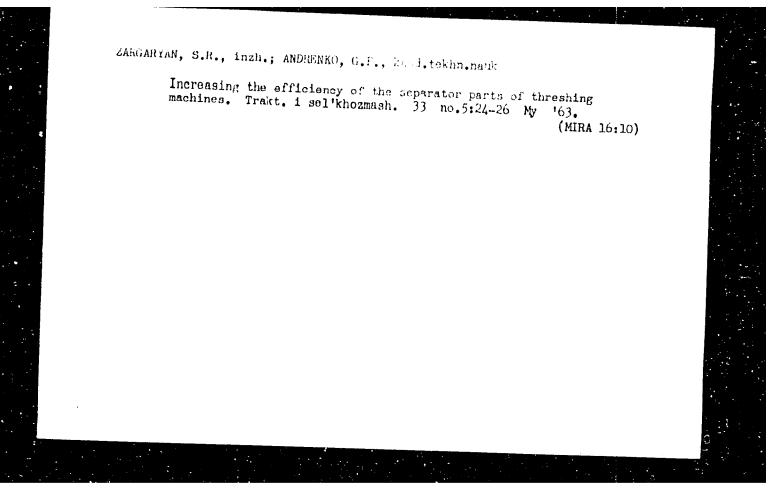
Referativnyy zhurnal, Mekhanika, no. 10, 1962, 30-31, abstract 10B167 (Tr. Khar kovsk. aviats. in-ta, 1960, no. 20, 255-272)

TEXT: The reversing device, which can be used not only for braking the airplane but also for obtaining additional lifting force, has been proposed and tested on an experimental installation and on an aircraft model in a wind tunnel at the Khar kovskiy aviatsionnyy institut (Khar'kov Aviation Institute). The tests were carried out with constant velocity of flow from the reversor and with different angles of rotation of the jet, angles of attack of the model and velocities of flow in the tunnel. It was found that the operation of the reversor increases the resistance of the model, decreases the coefficient  $C_y$  and produces a pitching moment,  $\Delta C_y$  and

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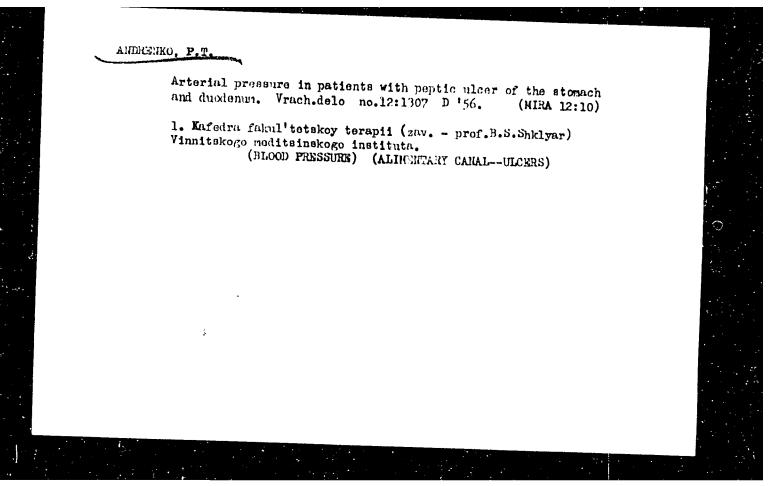
CIA-RDP86-00513R000101510005-8" **APPROVED FOR RELEASE: 03/20/2001** 

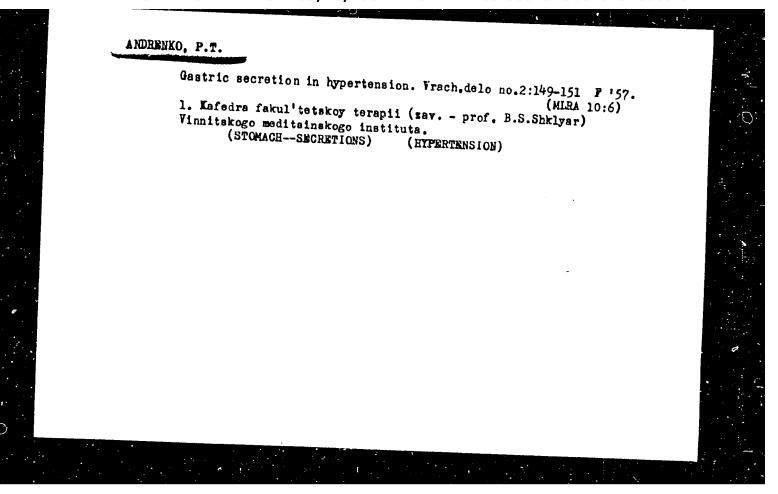


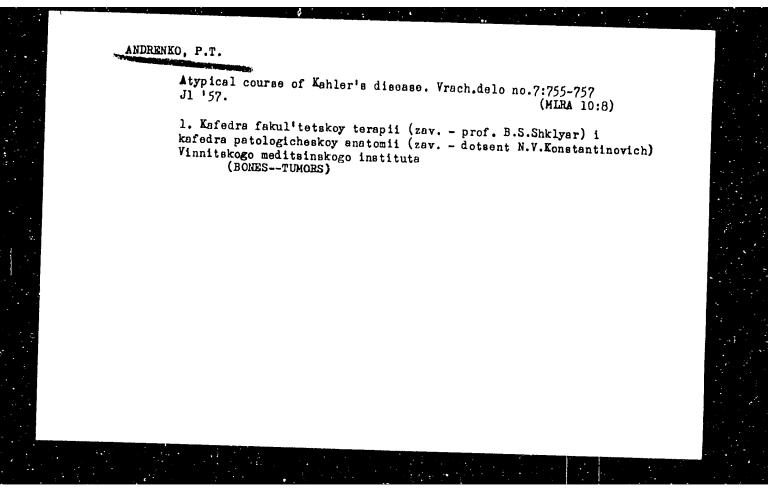


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Country : USSR Category : Human and Animal Physiology, Circulation T Abs. Jour. : Ref Zhur Biol, No. 2, 1959, No. 8129 Author Andrenko, P. T. Institut. Vinnitas Medical Institute Title : The Motor-Secretory Function of the Stomach in Patients with Hypertension in Relation to Characteristics of Higher Norvous Activity. Oriz Pub. : Sb. nauchn. tr. Vinnitek. med. in-tm, 1957, 14, 78--84 Abstract : no abstract Card: 1/1

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Effect of stimulation of the gastric mechanicoreceptors on biopotentials of the brain in peptic ulcer. Vrach. delo no.7:633-687

Jl '58

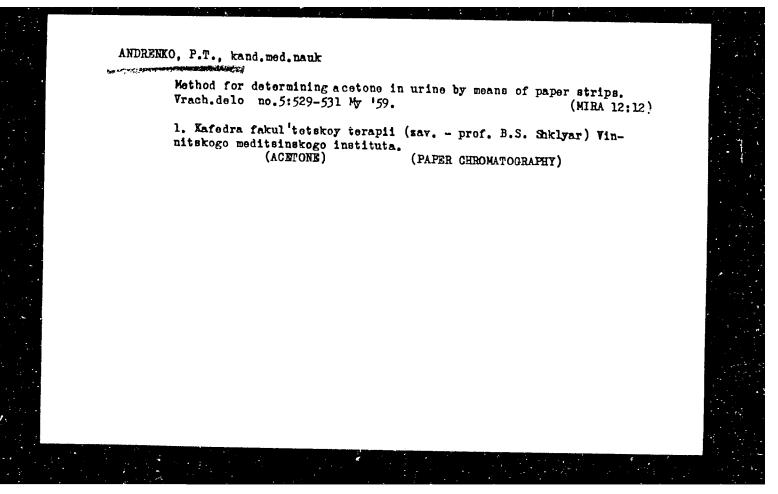
(MIRA 11:9)

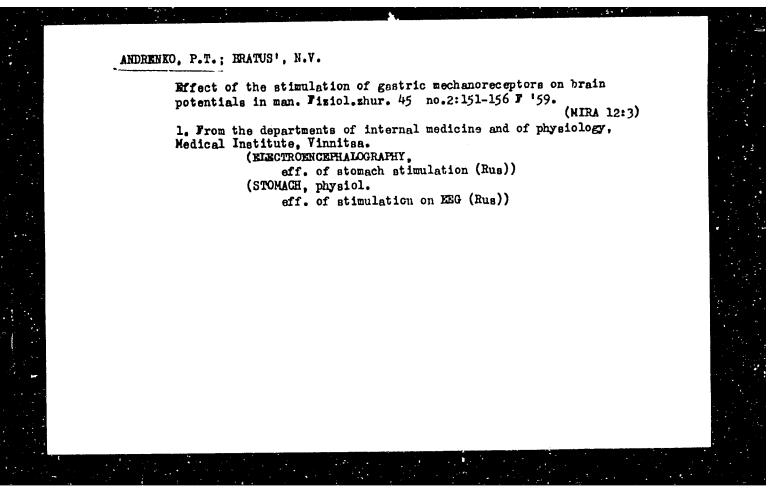
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Eafedra normal'noy fiziologii (zav. - prof. N.K. Vitte) Vinnitskogo
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(PETT ULCER)

(KLECTROENCEPHALOGRAPHY)





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(Wave guides)

